

## EAST Search History

## EAST Search History (Prior Art)

| Ref # | Hits  | Search Query   | DBs                | Default Operator | Plurals | Time Stamp          |
|-------|-------|--|--------------------|------------------|---------|---------------------|
| S1    | 1     | "10590079"   | US-PGPUB;<br>USPAT | OR               | OFF     | 2009/05/06<br>15:29 |
| S2    | 84    | ((TAKASHI) near2<br>(GOTO)).INV.   | US-PGPUB;<br>USPAT | OR               | OFF     | 2009/05/06<br>15:30 |
| S3    | 8     | ((TEIICHI) near2<br>(KIMURA)).INV.   | US-PGPUB;<br>USPAT | OR               | OFF     | 2009/05/06<br>15:30 |
| S4    | 97    | ((HAJIME) near2<br>(SUZUKI)).INV.  | US-PGPUB;<br>USPAT | OR               | OFF     | 2009/05/06<br>15:30 |
| S5    | 4     | ((KEIICHIRO) near2<br>(JINUSHI)).INV.  | US-PGPUB;<br>USPAT | OR               | OFF     | 2009/05/06<br>15:30 |
| S6    | 13699 | "solid electrolyte"  | US-PGPUB;<br>USPAT | OR               | OFF     | 2009/05/06<br>15:46 |
| S7    | 1879  | "solid electrolyte" and<br>ruthenium   | US-PGPUB;<br>USPAT | OR               | OFF     | 2009/05/06<br>16:00 |
| S8    | 1631  | "solid electrolyte" and<br>ruthenium and carbon  | US-PGPUB;<br>USPAT | OR               | OFF     | 2009/05/06<br>16:01 |
| S9    | 727   | "solid electrolyte" and<br>ruthenium same carbon   | US-PGPUB;<br>USPAT | OR               | OFF     | 2009/05/06<br>16:01 |
| S10   | 1     | "solid electrolyte" and<br>ruthenium same carbon<br>and "interfacial electrical<br>conductivity" | US-PGPUB;<br>USPAT | OR               | OFF     | 2009/05/06<br>16:02 |
| S11   | 7     | "interfacial electrical<br>conductivity"   | US-PGPUB;<br>USPAT | OR               | OFF     | 2009/05/06<br>16:02 |
| S12   | 2131  | "specific conductivity"  | US-PGPUB;<br>USPAT | OR               | OFF     | 2009/05/06<br>16:06 |
| S13   | 452   | "specific conductivity" and<br>S\$1m   | US-PGPUB;<br>USPAT | OR               | OFF     | 2009/05/06<br>16:06 |
| S14   | 217   | "specific conductivity" and<br>S\$1m and electrolyte   | US-PGPUB;<br>USPAT | OR               | OFF     | 2009/05/06<br>16:06 |
| S15   | 70    | "specific conductivity" and<br>S\$1m and "solid<br>electrolyte"                                  | US-PGPUB;<br>USPAT | OR               | OFF     | 2009/05/06<br>16:08 |
| S16   | 0     | (2004/0018416).CCLS.   | US-PGPUB;<br>USPAT | OR               | OFF     | 2009/05/07<br>08:59 |
| S17   | 1     | ("20040018416").PN.  | US-PGPUB;<br>USPAT | OR               | OFF     | 2009/05/07<br>08:59 |
| S18   | 2     | ((("20040018416") or<br>("6471745"))).PN.  | US-PGPUB;<br>USPAT | OR               | OFF     | 2009/05/07<br>09:00 |

|     |      |  |                    |    |     |                     |
|-----|------|--|--------------------|----|-----|---------------------|
| S19 | 504  | carbon same ((ruthenium or Ru) with (nanometers or nm))                                    | US-PGPUB;<br>USPAT | OR | OFF | 2009/05/07<br>09:34 |
| S20 | 2463 | (ruthenium or Ru) and "solid electrolyte"  | US-PGPUB;<br>USPAT | OR | OFF | 2009/05/07<br>10:28 |
| S21 | 2113 | (ruthenium or Ru) and "solid electrolyte" and carbon                                       | US-PGPUB;<br>USPAT | OR | OFF | 2009/05/07<br>10:28 |
| S22 | 928  | ((ruthenium or Ru) same carbon) and "solid electrolyte"                                    | US-PGPUB;<br>USPAT | OR | OFF | 2009/05/07<br>10:28 |
| S23 | 111  | ((ruthenium or Ru) same carbon) same "solid electrolyte"                                   | US-PGPUB;<br>USPAT | OR | OFF | 2009/05/07<br>10:29 |
| S24 | 103  | ((ruthenium or Ru) same carbon) and "solid electrolyte" and "204". clas.                   | US-PGPUB;<br>USPAT | OR | OFF | 2009/05/07<br>10:30 |
| S25 | 133  | ((ruthenium or Ru) same carbon) and "solid electrolyte" and ("204". clas. or "205". clas.) | US-PGPUB;<br>USPAT | OR | OFF | 2009/05/07<br>10:30 |
| S26 | 0    | ((Futagawa) near2 (masatoshi)).INV.  | US-PGPUB;<br>USPAT | OR | OFF | 2009/05/07<br>11:17 |
| S27 | 12   | ((so) near2 (SUZUKI)). INV.  | US-PGPUB;<br>USPAT | OR | OFF | 2009/05/07<br>11:18 |
| S28 | 11   | ((yamada) near2 (michio)).INV.   | US-PGPUB;<br>USPAT | OR | OFF | 2009/05/07<br>11:19 |
| S29 | 42   | ((ruthenium or Ru) same carbon) and "solid electrolyte" and "gas sensor"                   | US-PGPUB;<br>USPAT | OR | OFF | 2009/05/07<br>11:21 |
| S30 | 2650 | (ruthenium or Ru) and mocvd  | US-PGPUB;<br>USPAT | OR | OFF | 2009/05/07<br>13:18 |
| S31 | 2650 | (ruthenium or Ru or "ruthenium oxide") and mocvd   | US-PGPUB;<br>USPAT | OR | OFF | 2009/05/07<br>13:19 |
| S32 | 2650 | (ruthenium or Ru) and mocvd  | US-PGPUB;<br>USPAT | OR | OFF | 2009/05/07<br>13:19 |
| S33 | 2232 | (ruthenium or Ru) and mocvd and electrode  | US-PGPUB;<br>USPAT | OR | OFF | 2009/05/07<br>13:19 |
| S34 | 721  | (ruthenium or Ru) and mocvd and electrode and carbon                                       | US-PGPUB;<br>USPAT | OR | OFF | 2009/05/07<br>13:20 |
| S35 | 82   | (ruthenium or Ru) and mocvd and electrode and carbon with amorphous                        | US-PGPUB;<br>USPAT | OR | OFF | 2009/05/07<br>13:20 |

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|-----|-------|---|--------------------|----|-----|---------------------|
| S36 | 82    | (ruthenium or Ru) and mocvd and electrode and (carbon with amorphous)               | US-PGPUB;<br>USPAT | OR | OFF | 2009/05/07<br>13:20 |
| S37 | 1072  | 204/424.ccls.   | US-PGPUB;<br>USPAT | OR | OFF | 2009/05/07<br>17:31 |
| S38 | 433   | 204/424.ccls. and carbon  | US-PGPUB;<br>USPAT | OR | OFF | 2009/05/07<br>17:31 |
| S39 | 101   | 204/424.ccls. and carbon and (ruthenium or ru)                                      | US-PGPUB;<br>USPAT | OR | OFF | 2009/05/07<br>17:32 |
| S40 | 66    | 204/424.ccls. and (carbon and (ruthenium or ru) same electrode)                     | US-PGPUB;<br>USPAT | OR | OFF | 2009/05/07<br>17:40 |
| S41 | 14    | 204/424.ccls. and (carbon same (ruthenium or ru) same electrode)                    | US-PGPUB;<br>USPAT | OR | OFF | 2009/05/07<br>17:40 |
| S42 | 18101 | (ruthenium or ru) same (Ir or iridium) and electrode                                | US-PGPUB;<br>USPAT | OR | OFF | 2009/05/07<br>17:45 |
| S43 | 6938  | (ruthenium or ru) same (Ir or iridium) same electrode                               | US-PGPUB;<br>USPAT | OR | OFF | 2009/05/07<br>17:45 |
| S44 | 6103  | (ruthenium or ru) same (Ir or iridium) same electrode and oxide                     | US-PGPUB;<br>USPAT | OR | OFF | 2009/05/07<br>17:45 |
| S45 | 3196  | (ruthenium or ru) same (Ir or iridium) same electrode same oxide                    | US-PGPUB;<br>USPAT | OR | OFF | 2009/05/07<br>17:46 |
| S46 | 50    | (ruthenium or ru) same (Ir or iridium) same electrode same oxide and "gas sensor"   | US-PGPUB;<br>USPAT | OR | OFF | 2009/05/07<br>17:46 |
| S47 | 50    | ((ruthenium or ru) same (Ir or iridium) same electrode same oxide) and "gas sensor" | US-PGPUB;<br>USPAT | OR | OFF | 2009/05/07<br>17:46 |
| S48 | 9     | "6515845"   | US-PGPUB;<br>USPAT | OR | OFF | 2009/05/08<br>10:46 |
| S49 | 4127  | "particle diameter" and ruthenium   | US-PGPUB;<br>USPAT | OR | OFF | 2009/05/08<br>14:07 |
| S50 | 38    | "particle diameter" and ruthenium and MOCVD   | US-PGPUB;<br>USPAT | OR | OFF | 2009/05/08<br>14:07 |
| S51 | 2     | "particle diameter" with ruthenium and MOCVD  | US-PGPUB;<br>USPAT | OR | OFF | 2009/05/08<br>14:09 |

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|-----|-----|---|--------------------|----|----|---------------------|
| S52 | 124 | (ruthenium or Ru) near5<br>(nanoparticle or nano<br>\$1particle or nano-<br>particle or nanocluster or<br>nano\$1cluster or nano-<br>cluster or ((particle or<br>grain or cluster) near5<br>(nanometer or nm or nano<br>\$1meter or \$4"nm")))<br>same (carbon or<br>graphite)                              | US-PGPUB;<br>USPAT | OR | ON | 2009/11/10<br>13:24 |
| S53 | 25  | (ruthenium or Ru) near5<br>(nanoparticle or nano<br>\$1particle or nano-<br>particle or nanocluster or<br>nano\$1cluster or nano-<br>cluster or ((particle or<br>grain or cluster) near5<br>(nanometer or nm or nano<br>\$1meter or \$4"nm")))<br>same (carbon or<br>graphite) and<br>@py<"2005"            | US-PGPUB;<br>USPAT | OR | ON | 2009/11/10<br>13:24 |
| S54 | 35  | (ruthenium or Ru) near5<br>(nanoparticle or nano<br>\$1particle or nano-<br>particle or nanocluster or<br>nano\$1cluster or nano-<br>cluster or ((particle or<br>grain or cluster) near5<br>(nanometer or nm or nano<br>\$1meter or \$4"nm")))<br>same (carbon or<br>graphite) and<br>@py<"2006"            | US-PGPUB;<br>USPAT | OR | ON | 2009/11/10<br>13:25 |
| S55 | 11  | (ruthenium or Ru) near5<br>(nanoparticle or nano<br>\$1particle or nano-<br>particle or nanocluster or<br>nano\$1cluster or nano-<br>cluster or ((particle or<br>grain or cluster) near5<br>(nanometer or nm or nano<br>\$1meter or \$4"nm")))<br>same (carbon or<br>graphite) and<br>@py<"2006" and \$2CVD | US-PGPUB;<br>USPAT | OR | ON | 2009/11/10<br>13:55 |

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|-----|----|---|--|----|----|---------------------|
| S56 | 13 | (ruthenium or Ru) near5<br>(nanoparticle or nano<br>\$1particle or nano-<br>particle or nanocluster or<br>nano\$1cluster or nano-<br>cluster or ((particle or<br>grain or cluster) near5<br>(nanometer or nm or nano<br>\$1meter or \$4"nm")))<br>same2 (carbon or<br>graphite) and<br>@py<"2006" and \$2CVD      | US-PGPUB;<br>USPAT                                 | OR | ON | 2009/11/10<br>13:56 |
| S57 | 13 | (ruthenium or Ru) near5<br>(nanoparticle or nano<br>\$1particle or nano-<br>particle or nanocluster or<br>nano\$1cluster or nano-<br>cluster or ((particle or<br>grain or cluster) near5<br>(nanometer or nm or nano<br>\$1meter or \$4"nm")))<br>same2 (carbon or<br>graphite) and<br>@py<"2006" and \$2CVD      | US-PGPUB;<br>USPAT; USOCR;<br>EPO; JPO;<br>DERWENT | OR | ON | 2009/11/10<br>13:56 |
| S58 | 0  | (ruthenium or Ru) near5<br>(nanoparticle or nano<br>\$1particle or nano-<br>particle or nanocluster or<br>nano\$1cluster or nano-<br>cluster or ((particle or<br>grain or cluster) near5<br>(nanometer or nm or nano<br>\$1meter or \$4"nm")))<br>same2 (carbon or<br>graphite) and<br>@py<"2006" and<br>"\$2CVD" | US-PGPUB;<br>USPAT; USOCR;<br>EPO; JPO;<br>DERWENT | OR | ON | 2009/11/10<br>13:57 |
| S59 | 13 | (ruthenium or Ru) near5<br>(nanoparticle or nano<br>\$1particle or nano-<br>particle or nanocluster or<br>nano\$1cluster or nano-<br>cluster or ((particle or<br>grain or cluster) near5<br>(nanometer or nm or nano<br>\$1meter or \$4"nm")))<br>same2 (carbon or<br>graphite) and<br>@py<"2006" and<br>\$2"CVD" | US-PGPUB;<br>USPAT; USOCR;<br>EPO; JPO;<br>DERWENT | OR | ON | 2009/11/10<br>13:57 |

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|-----|----|--|--|----|----|---------------------|
| S60 | 13 | (ruthenium or Ru) near5<br>(nanoparticle or nano<br>\$1particle or nano-<br>particle or nanocluster or<br>nano\$1cluster or nano-<br>cluster or ((particle or<br>grain or cluster) near5<br>(nanometer or nm or nano<br>\$1meter or \$4"nm")))<br>same2 (carbon or<br>graphite) and<br>@py<"2006" and<br>(\$2"CVD" or MOCVD) | US-PGPUB;<br>USPAT; USOCR;<br>EPO; JPO;<br>DERWENT | OR | ON | 2009/11/10<br>14:02 |
| S61 | 87 | (ruthenium or Ru) near5<br>(nanoparticle or nano<br>\$1particle or nano-<br>particle or nanocluster or<br>nano\$1cluster or nano-<br>cluster or ((particle or<br>grain or cluster) near5<br>(nanometer or nm or nano<br>\$1meter or \$4"nm")))<br>and (\$2"CVD" or MOCVD)  | US-PGPUB;<br>USPAT; USOCR;<br>EPO; JPO;<br>DERWENT | OR | ON | 2009/11/10<br>14:02 |
| S62 | 29 | (ruthenium or Ru) near5<br>(nanoparticle or nano<br>\$1particle or nano-<br>particle or nanocluster or<br>nano\$1cluster or nano-<br>cluster or ((particle or<br>grain or cluster) near5<br>(nanometer or nm or nano<br>\$1meter or \$4"nm")))<br>and (\$2"CVD" or MOCVD)<br>and @py<"2006"                                  | US-PGPUB;<br>USPAT; USOCR;<br>EPO; JPO;<br>DERWENT | OR | ON | 2009/11/10<br>14:02 |
| S63 | 1  | (ruthenium or Ru) near5<br>(nanoparticle or nano<br>\$1particle or nano-<br>particle or nanocluster or<br>nano\$1cluster or nano-<br>cluster or ((particle or<br>grain or cluster) near5<br>(nanometer or nm or nano<br>\$1meter or \$4"nm")))<br>and (\$2"CVD" or MOCVD)  | EPO; JPO;<br>DERWENT                               | OR | ON | 2009/11/10<br>14:13 |

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|-----|------|---|------------------------|----|----|------------------|
| S64 | 5    | (ruthenium or Ru) near5 (nanoparticle or nano\$1particle or nano-particle or nanocluster or nano\$1cluster or nanocluster or nanometer or nm or nano\$1meter or \$4"nm" or ((particle or grain or cluster) near5 (nanometer or nm or nano\$1meter or \$4"nm"))) and (\$2"CVD" or MOCVD) | EPO; JPO; DERWENT      | OR | ON | 2009/11/10 14:14 |
| S65 | 794  | ((TAKASHI) near2 (GOTO)).INV.   | EPO; JPO; DERWENT      | OR | ON | 2009/11/10 15:46 |
| S66 | 54   | ((TEIICHI) near2 (KIMURA)).INV.   | EPO; JPO; DERWENT      | OR | ON | 2009/11/10 15:47 |
| S67 | 1165 | ((HAJIME) near2 (SUZUKI)).INV.  | EPO; JPO; DERWENT      | OR | ON | 2009/11/10 15:47 |
| S68 | 10   | ((KEIICHIRO) near2 (JINUSHI)).INV.  | EPO; JPO; DERWENT      | OR | ON | 2009/11/10 15:47 |
| S69 | 0    | (S65 or S66 or S67 or S68) and (ruthenium or iridium)   | US-PGPUB; USPAT        | OR | ON | 2009/11/10 15:52 |
| S70 | 10   | (S65 or S66 or S67 or S68) and (ruthenium or iridium)   | EPO; JPO; DERWENT      | OR | ON | 2009/11/10 15:52 |
| S71 | 1    | (S65 or S66 or S67 or S68) and (mocvd)  | EPO; JPO; DERWENT      | OR | ON | 2009/11/10 15:57 |
| S72 | 153  | (ruthenium or Ru) same (carbon or graphite) same (MOCVD or CVD) and @py<"2005"  | US-PGPUB; USPAT        | OR | ON | 2009/11/10 16:31 |
| S73 | 134  | (ruthenium or Ru) same (carbon or graphite) same (MOCVD or CVD) and @py<"2005" and oxygen   | US-PGPUB; USPAT        | OR | ON | 2009/11/10 16:32 |
| S74 | 31   | ("4927670"   "4992305"   "5130172"   "5352488"   "5403620"   "5962716"   "6002036"   "6063705"   "6207232"   "6380080"). PN. OR ("6605735"). URP.N.   | US-PGPUB; USPAT; USOCR | OR | ON | 2009/11/11 12:01 |
| S75 | 1219 | ((ruthenium or ru or platinum or pt or iridium) near5 (particle or grain or cluster)) and (carbon or graphite) and CVD and py<"2004"  | US-PGPUB; USPAT        | OR | ON | 2009/11/16 10:49 |

|     |     |  |                        |    |     |                  |
|-----|-----|--|------------------------|----|-----|------------------|
| S76 | 147 | ((ruthenium or ru or platinum or pt or iridium) near5 (particle or grain or cluster) near5 (nanomet\$ or nm or \$4nm)) and (carbon or graphite) and CVD and py<"2004"                | US-PGPUB; USPAT        | OR | ON  | 2009/11/16 10:50 |
| S77 | 36  | ((ruthenium or ru or platinum or pt or iridium) near5 (particle or grain or cluster) near5 (nanomet\$ or nm or \$4nm)) and (carbon or graphite) and CVD and @py<"2004"               | US-PGPUB; USPAT        | OR | ON  | 2009/11/16 10:53 |
| S78 | 11  | "5972079"  | US-PGPUB; USPAT        | OR | ON  | 2009/11/16 10:53 |
| S79 | 38  | ((ruthenium or ru or platinum or pt or iridium) near5 (particle or grain or cluster) near5 (nanomet\$ or nm or \$4nm)) and (carbon or graphite) and (CVD or \$2CVD) and @py<"2004"   | US-PGPUB; USPAT        | OR | ON  | 2009/11/16 10:58 |
| S80 | 38  | ((ruthenium or ru or platinum or pt or iridium) near5 (particle or grain or cluster) near5 (nanomet \$3 or nm or \$4nm)) and (carbon or graphite) and (CVD or \$2CVD) and @py<"2004" | US-PGPUB; USPAT        | OR | ON  | 2009/11/16 11:00 |
| S81 | 0   | "09900439"   | US-PGPUB; USPAT        | OR | ON  | 2009/11/16 11:22 |
| S82 | 2   | "09/900439"  | US-PGPUB; USPAT        | OR | ON  | 2009/11/16 11:22 |
| S83 | 13  | ("5249554"   "5277996"   "5427827"   "5653812"   "6015597"   "6046758"   "6054331"   "6200675"   "6468642").PN. OR ("6669996").URPN.   | US-PGPUB; USPAT; USOCR | OR | ON  | 2009/11/16 11:22 |
| S84 | 2   | 10/169,879   | US-PGPUB; USPAT        | OR | OFF | 2009/11/17 14:18 |
| S85 | 50  | gruen.in. and carbon   | US-PGPUB; USPAT        | OR | ON  | 2009/11/17 14:28 |
| S86 | 0   | gruen.in. and carbon and nonporous   | US-PGPUB; USPAT        | OR | ON  | 2009/11/17 14:29 |
| S87 | 2   | gruen.in. and carbon and non\$1porous  | US-PGPUB; USPAT        | OR | ON  | 2009/11/17 14:29 |



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|-----|-----|---|-----------------|----|----|------------------|
| S88 | 671 | "solid electrolyte" and iridium and ruthenium and (catalyst or catalytic) and electrode   | US-PGPUB; USPAT | OR | ON | 2009/11/17 15:15 |
| S89 | 293 | "solid electrolyte" and iridium and ruthenium and (catalyst or catalytic) and electrode and @py<"2004"                                    | US-PGPUB; USPAT | OR | ON | 2009/11/17 15:15 |
| S90 | 231 | "solid electrolyte" and iridium and ruthenium and (catalyst or catalytic) and electrode and @py<"2003"                                    | US-PGPUB; USPAT | OR | ON | 2009/11/17 15:16 |
| S91 | 12  | "solid electrolyte" and ((iridium and ruthenium) with particle) and (catalyst or catalytic) and electrode and @py<"2003"                  | US-PGPUB; USPAT | OR | ON | 2009/11/17 15:16 |
| S92 | 4   | "solid electrolyte" and (((iridium and ruthenium) with particle) same electrode) and (catalyst or catalytic) and electrode and @py<"2003" | US-PGPUB; USPAT | OR | ON | 2009/11/17 15:46 |
| S93 | 4   | "solid electrolyte" and (((iridium and ruthenium) with particle) same electrode) and (catalyst or catalytic) and @py<"2003"               | US-PGPUB; USPAT | OR | ON | 2009/11/17 15:46 |
| S94 | 4   | "solid electrolyte" and (((iridium and ruthenium) with particle) same electrode) and @py<"2003"   | US-PGPUB; USPAT | OR | ON | 2009/11/17 15:46 |
| S95 | 184 | "solid electrolyte" and ((iridium and ruthenium) same electrode) and @py<"2003"   | US-PGPUB; USPAT | OR | ON | 2009/11/17 15:47 |
| S96 | 117 | "solid electrolyte" and ((iridium and ruthenium) same electrode) and @py<"2003" and ("204". clas. or "205". clas.)                        | US-PGPUB; USPAT | OR | ON | 2009/11/17 15:47 |
| S97 | 39  | "solid electrolyte" and ((iridium and ruthenium) same electrode) and @py<"2003" and ("429". clas.)  | US-PGPUB; USPAT | OR | ON | 2009/11/17 15:53 |

|      |      |  |                 |    |     |                  |
|------|------|--|-----------------|----|-----|------------------|
| S98  | 24   | "solid electrolyte" and ((iridium and ruthenium) with electrode) and @py<"2003" and ("429". clas.)   | US-PGPUB; USPAT | OR | ON  | 2009/11/17 15:53 |
| S99  | 20   | "solid electrolyte" and ((iridium and ruthenium) with electrode) and @py<"2003" and ("429". clas.) and (catalyst or catalytic)               | US-PGPUB; USPAT | OR | ON  | 2009/11/17 15:55 |
| S100 | 5    | "solid electrolyte" same zirconia and ((iridium and ruthenium) with electrode) and @py<"2003" and ("429". clas.) and (catalyst or catalytic) | US-PGPUB; USPAT | OR | ON  | 2009/11/17 16:04 |
| S101 | 5    | "6669996"  | US-PGPUB; USPAT | OR | OFF | 2009/11/18 10:52 |
| S102 | 803  | "amorphous carbon" with "carbon black"   | US-PGPUB; USPAT | OR | ON  | 2010/09/16 10:41 |
| S110 | 612  | ("amorphous carbon" with "carbon black") and "known"   | US-PGPUB; USPAT | OR | ON  | 2010/09/16 10:44 |
| S111 | 29   | ("amorphous carbon" with "carbon black") with "known"  | US-PGPUB; USPAT | OR | ON  | 2010/09/16 10:44 |
| S112 | 520  | ("amorphous carbon" near2 "carbon black")  | US-PGPUB; USPAT | OR | ON  | 2010/09/16 10:49 |
| S113 | 512  | ("amorphous carbon" near2 "carbon black") and form   | US-PGPUB; USPAT | OR | ON  | 2010/09/16 10:49 |
| S114 | 189  | ("amorphous carbon" near2 "carbon black") same form  | US-PGPUB; USPAT | OR | ON  | 2010/09/16 10:49 |
| S115 | 102  | "carbon black matrix"  | US-PGPUB; USPAT | OR | ON  | 2010/09/16 11:30 |
| S116 | 2    | "carbon black matrix" with amorphous   | US-PGPUB; USPAT | OR | ON  | 2010/09/16 11:31 |
| S117 | 10   | "5605759"  | US-PGPUB; USPAT | OR | ON  | 2010/09/16 11:40 |
| S118 | 3804 | "thermal chemical vapor deposition"  | US-PGPUB; USPAT | OR | OFF | 2011/04/05 14:05 |
| S119 | 218  | "thermal chemical vapor deposition" and carbon and ruthenium   | US-PGPUB; USPAT | OR | OFF | 2011/04/05 14:05 |

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|------|------|---|-----------------|----|-----|------------------|
| S120 | 29   | "thermal chemical vapor deposition" and carbon and ruthenium and @py<"2005"   | US-PGPUB; USPAT | OR | OFF | 2011/04/05 14:19 |
| S121 | 2    | "thermal chemical vapor deposition" same2 carbon same2 ruthenium and @py<"2005"   | US-PGPUB; USPAT | OR | OFF | 2011/04/05 14:20 |
| S122 | 5    | "thermal chemical vapor deposition" same2 carbon same2 (ruthenium or ru) and @py<"2005"   | US-PGPUB; USPAT | OR | OFF | 2011/04/05 14:23 |
| S123 | 2234 | "electron cyclotron resonance" with ("chemical vapor deposition" or CVD)  | US-PGPUB; USPAT | OR | ON  | 2011/04/05 14:56 |
| S124 | 881  | ("electron cyclotron resonance" and thermal) with ("chemical vapor deposition" or CVD)  | US-PGPUB; USPAT | OR | ON  | 2011/04/05 14:57 |
| S125 | 487  | ("electron cyclotron resonance" and thermal) with ("chemical vapor deposition" or CVD) and @py<"2006"   | US-PGPUB; USPAT | OR | ON  | 2011/04/05 14:57 |
| S126 | 243  | ("electron cyclotron resonance" and thermal) with ("chemical vapor deposition" or CVD) and @py<"2006" and carbon  | US-PGPUB; USPAT | OR | ON  | 2011/04/05 14:57 |
| S127 | 187  | ("electron cyclotron resonance" and thermal) with ("chemical vapor deposition" or CVD) and @py<"2006" and (carbon with (matrix or film or layer or network or deposition or depositing or coat\$3))                       | US-PGPUB; USPAT | OR | ON  | 2011/04/05 14:58 |
| S128 | 25   | ("electron cyclotron resonance" and thermal) with ("chemical vapor deposition" or CVD) and @py<"2006" and (carbon with (matrix or film or layer or network or deposition or depositing or coat\$3)) and (Ruthenium or ru) | US-PGPUB; USPAT | OR | ON  | 2011/04/05 14:58 |

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| S129 | 30  | ("electron cyclotron resonance" and (thermal or "low pressure" or "atmospheric pressure")) with ("chemical vapor deposition" or CVD) and @py<"2006" and (carbon with (matrix or film or layer or network or deposition or depositing or coat\$3)) and (Ruthenium or ru)   | US-PGPUB;<br>USPAT | OR | ON | 2011/04/05<br>15:04 |
| S130 | 8   | ("electron cyclotron resonance" same (thermal or "low pressure" or "atmospheric pressure")) with ("chemical vapor deposition" or CVD) and @py<"2006" and (carbon with (matrix or film or layer or network or deposition or depositing or coat\$3)) and (Ruthenium or ru)  | US-PGPUB;<br>USPAT | OR | ON | 2011/04/05<br>15:04 |
| S131 | 953 | ((thermal or "low pressure" or "atmospheric pressure")) with ("chemical vapor deposition" or CVD or (chemical adj deposition) or (MOCVD or \$2CVD or "organometallic CVD" or "metallorganic CVD")) and @py<"2006" and (carbon with (matrix or film or layer or network or deposition or depositing or coat\$3)) and (Ruthenium or ru)   | US-PGPUB;<br>USPAT | OR | ON | 2011/04/05<br>16:14 |
| S132 | 13  | ((thermal or "low pressure" or "atmospheric pressure")) with ("chemical vapor deposition" or CVD or (chemical adj deposition) or (MOCVD or \$2CVD or "organometallic CVD" or "metallorganic CVD")) same (carbon with (matrix or film or layer or network or deposition or depositing or coat\$3)) same (Ruthenium or ru) and @py<"2006" | US-PGPUB;<br>USPAT | OR | ON | 2011/04/05<br>16:15 |

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| S133 | 217  | ((thermal or "low pressure" or "atmospheric pressure") with ("chemical vapor deposition" or CVD or (chemical adj deposition)) or (MOCVD or \$2CVD or "organometallic CVD" or "metallorganic CVD")) same (carbon) same (Ruthenium or ru) and @py<"2006"  | US-PGPUB; USPAT        | OR | ON | 2011/04/05 16:25 |
| S134 | 130  | ((thermal or "low pressure" or "atmospheric pressure") with ("chemical vapor deposition" or CVD or (chemical adj deposition)) or (MOCVD or \$2CVD or "organometallic CVD" or "metallorganic CVD")) same (carbon with (matrix or film or layer or network or deposition or depositing or coat\$3)) same (Ruthenium or ru) and @py<"2006" | US-PGPUB; USPAT        | OR | ON | 2011/04/05 16:25 |
| S135 | 117  | S134 not S132   | US-PGPUB; USPAT        | OR | ON | 2011/04/05 16:27 |
| S136 | 2    | 09/900439   | US-PGPUB; USPAT        | OR | ON | 2011/04/05 16:59 |
| S137 | 14   | ("5249554"   "5277996"   "5427827"   "5653812"   "6015597"   "6046758"   "6054331"   "6200675"   "6468642").PN. OR ("6669996").URPN.  | US-PGPUB; USPAT; USOCR | OR | ON | 2011/04/05 16:59 |
| S138 | 2021 | ((thermal or "low pressure" or "atmospheric pressure") with ("chemical vapor deposition" or CVD or (chemical adj deposition)) or (MOCVD or \$2CVD or "organometallic CVD" or "metallorganic CVD")) same (carbon with (matrix or film or layer or network or deposition or depositing or coat\$3)) same (diamond) and @py<"2006"         | US-PGPUB; USPAT        | OR | ON | 2011/04/06 10:20 |

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| S139 | 1277 | ((thermal or "low pressure" or "atmospheric pressure") with ("chemical vapor deposition" or CVD or (chemical adj deposition)) or (MOCVD or \$2CVD or "organometallic CVD" or "metallorganic CVD")) with (carbon with (matrix or film or layer or network or deposition or depositing or coat\$3)) same (diamond) and @py<"2006"  | US-PGPUB;<br>USPAT | OR | ON | 2011/04/06<br>10:20 |
| S140 | 1122 | ((thermal or "low pressure" or "atmospheric pressure") with ("chemical vapor deposition" or CVD or (chemical adj deposition)) or (MOCVD or \$2CVD or "organometallic CVD" or "metallorganic CVD")) with (carbon with (matrix or film or layer or network or deposition or depositing or coat\$3)) with (diamond) and @py<"2006"  | US-PGPUB;<br>USPAT | OR | ON | 2011/04/06<br>10:20 |
| S141 | 1113 | ((thermal or "low pressure" or "atmospheric pressure") near3 ("chemical vapor deposition" or CVD or (chemical adj deposition)) or (MOCVD or \$2CVD or "organometallic CVD" or "metallorganic CVD")) with (carbon with (matrix or film or layer or network or deposition or depositing or coat\$3)) with (diamond) and @py<"2006" | US-PGPUB;<br>USPAT | OR | ON | 2011/04/06<br>10:21 |

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|------|-----|--|-----------------|----|----|------------------|
| S142 | 669 | ((thermal or "low pressure" or "atmospheric pressure") near3 ("chemical vapor deposition" or CVD or (chemical adj deposition)) or (MOCVD or \$2CVD or "organometallic CVD" or "metallorganic CVD")) with (carbon near3 (matrix or film or layer or network or deposition or depositing or coat\$3)) with (diamond) and @py<"2006"  | US-PGPUB; USPAT | OR | ON | 2011/04/06 10:22 |
| S143 | 192 | ((thermal or "low pressure" or "atmospheric pressure") near3 ("chemical vapor deposition" or CVD or (chemical adj deposition)) or (MOCVD or \$2CVD or "organometallic CVD" or "metallorganic CVD")) with (carbon near3 (matrix or film or layer or network or deposition or depositing or coat\$3)) with (diamond) and @py<"2006" and ("427". clas. or "204".clas. or "205".clas.) | US-PGPUB; USPAT | OR | ON | 2011/04/06 10:22 |
| S144 | 4   | (thermal or "low pressure" or "atmospheric pressure") near3 ("chemical vapor deposition" or CVD or (chemical adj deposition)) with (carbon near3 (matrix or film or layer or network or deposition or depositing or coat\$3)) with (diamond) and @py<"2006" and ("427". clas. or "204".clas. or "205".clas.)   | US-PGPUB; USPAT | OR | ON | 2011/04/06 10:23 |

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|------|-----|--|-----------------|----|----|------------------|
| S145 | 19  | (thermal or "low pressure" or "atmospheric pressure") near3 ("chemical vapor deposition" or CVD or (chemical adj deposition)) with (carbon near3 (matrix or film or layer or network or deposition or depositing or coat\$3)) with (diamond) and @py< "2006" | US-PGPUB; USPAT | OR | ON | 2011/04/06 10:56 |
| S146 | 101 | (thermal or "low pressure" or "atmospheric pressure") near3 ("chemical vapor deposition" or CVD or (chemical adj deposition)) with (diamond) and @py< "2006" and ("427". clas. or "204". clas. or "205". clas.)  | US-PGPUB; USPAT | OR | ON | 2011/04/06 11:02 |
| S147 | 99  | (thermal or "low pressure" or "atmospheric pressure") near3 ("chemical vapor deposition" or CVD or (chemical adj deposition)) with (diamond) and @py< "2006" and ("427". clas.)  | US-PGPUB; USPAT | OR | ON | 2011/04/06 11:02 |
| S148 | 43  | (thermal or "low pressure" or "atmospheric pressure") adj1 ("chemical vapor deposition" or CVD or (chemical adj deposition)) with (diamond) and @py< "2006" and ("427". clas.)   | US-PGPUB; USPAT | OR | ON | 2011/04/06 11:03 |
| S149 | 32  | "solid electrolyte" same zirconia and (((iridium or ir) and (ruthenium or ru)) with electrode) same (catalyst or catalytic) and @py< "2004"  | US-PGPUB; USPAT | OR | ON | 2011/04/06 13:24 |
| S150 | 0   | "solid electrolyte" same zirconia and (((iridium or ir) and (ruthenium or ru)) with electrode with carbon) same (catalyst or catalytic) and @py< "2004"  | US-PGPUB; USPAT | OR | ON | 2011/04/06 13:26 |



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| S151 | 2   | "solid electrolyte" same zirconia and (((iridium or ir) and (ruthenium or ru)) with electrode with carbon) and @py<"2004"   | US-PGPUB;<br>USPAT   | OR | ON | 2011/04/06<br>13:26 |
| S152 | 2   | "solid electrolyte" same zirconia and (((iridium or ir) and (ruthenium or ru)) with electrode with carbon) and @py<"2005"   | US-PGPUB;<br>USPAT   | OR | ON | 2011/04/06<br>13:26 |
| S153 | 20  | "solid electrolyte" and (((iridium or ir) and (ruthenium or ru)) with electrode with carbon) and @py<"2005"   | US-PGPUB;<br>USPAT   | OR | ON | 2011/04/06<br>13:27 |
| S154 | 1   | "solid electrolyte" and (((iridium or ir) and (ruthenium or ru)) with electrode with carbon) and @py<"2005"   | EPO; JPO;<br>DERWENT | OR | ON | 2011/04/06<br>13:31 |
| S155 | 112 | "solid electrolyte" and (electrode near2 carbon) and @py<"2004"   | EPO; JPO;<br>DERWENT | OR | ON | 2011/04/06<br>13:32 |
| S156 | 17  | "solid electrolyte" and (electrode near2 carbon) and @py<"2004" and (gas with (sens\$3 or detect\$3 or monitor\$3 or analy\$4))   | EPO; JPO;<br>DERWENT | OR | ON | 2011/04/06<br>13:33 |
| S157 | 22  | "solid electrolyte" and (electrode near2 carbon) and @py<"2004" and ((gas or oxygen or analyte or "carbon dioxide" or "carbon monoxide") with (sens\$3 or detect\$3 or monitor\$3 or analy\$4)) | EPO; JPO;<br>DERWENT | OR | ON | 2011/04/06<br>13:34 |
| S159 | 194 | MOCVD with "substrate temperature" and @py<"2004"   | US-PGPUB;<br>USPAT   | OR | ON | 2011/04/07<br>16:15 |
| S160 | 42  | MOCVD with "substrate temperature" and @py<"2004" and carbon  | US-PGPUB;<br>USPAT   | OR | ON | 2011/04/07<br>16:16 |
| S161 | 3   | MOCVD with "substrate temperature" and @py<"2004" and (carbon near2 (film or layer or deposit\$3))  | US-PGPUB;<br>USPAT   | OR | ON | 2011/04/07<br>16:17 |

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